MATERIALS INDEX TO VOLUME 13

This table is a cumulative listing of all the articles in Volume 13 classified according to the specific material(s) for which data and/or calculations are reported. For materials studied in physical combination, the type of combinations is indicated using several formats. Components of a true alloy are separated by dashes (i.e., Al–Zn or W–Ti–Cu). In general, the most abundant component is listed first. The notation (AB) or (ABC) is used to denote A_xB_{1-x} or $(A_xB_{1-x})_yC_{1-y}$, respectively, as well as for the more general pseudoalloys and mixtures. Symbols for trace elements are appended to the host material by a colon such as in CdS:Na for sodium-doped cadmium sulfide. Elements within parentheses separated by a comma indicate the simultaneous presence of both as in Si:(Ga, B) for silicon doped with both gallium and boron. A semicolon refers to each item in the set separately so that Al_2O_3:(Cr; Fe) indicates alumina doped with chromium or alumina doped with iron. The intimate juxtaposition of components, such as in thin-film couples, is indicated by a slash as in SiO_2/Si or Au/Ni/Cu. When the allotropic form of a material is vital to its identification, a parenthetic reference is provided [e.g., C(diamond) versus C(graphite)].

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- Preparation of silver particles by spray pyrolysis of silver-diammine complex solutions.–N. Kieda and G. L. Messing; **13** (6), 1660–1665.
- Analytic embedded atom method potentials for face-centered cubic metals.–S. S. Pohlong and P. N. Ram; **13** (7), 1919–1927.

Ag/Au/Si

- Improvement of the morphological stability of Ag film on (001)Si with a thin interposing Au layer.–Y. C. Peng, C. R. Chen, and L. J. Chen; **13** (1), 90–93.

Ag/MgO

- Micron thick epitaxial (100) Ag film growth on MgO.–A. C. Carter, W. Chang, S. B. Qadri, J. S. Horwitz, Robert Leuchtner, and D. B. Chrisey; **13** (6), 1418–1421.

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- Can there be a second kind of entropy catastrophe in the melting of metastable solids?–P. Ramachandrarao and S. Srikanth; **13** (11), 3270–3274.

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- Elastic loading and elastoplastic unloading from nanometer level indentations for modulus determinations.–W. W. Gerberich, W. Yu, D. Kramer, A. Strojny, D. Bahr, E. Lilleodden, and J. Nelson; **13** (2), 421–439.
- Passivation of nanocrystalline Al prepared by the gas phase condensation method: An x-ray photoelectron spectroscopy study.–J. C. Sánchez-López, A. R. González-Elipe, and A. Fernández; **13** (3), 703–710.
- Microstructure of cosputter-deposited metal- and oxide-MoS_2 solid lubricant thin films.–M. R. Hilton, G. Jayaram, and L. D. Marks; **13** (4), 1022–1032.
- Simulation of the temperature and current density scaling of the electromigration-limited reliability of near-bamboo interconnects.–B. D. Knowlton and C. V. Thompson; **13** (5), 1164–1170.
- Evolution of stresses in passivated and unpassivated metal interconnects.–A. Gouldstone, Y-L. Shen, S. Suresh, and C. V. Thompson; **13** (7), 1956–1966.
- Depth-sensing indentation measurements with Vickers and Berkovich indentors.–B. Rother, A. Steiner, D. A. Dietrich, H. A. Jehn, J. Haupt, and W. Gissler; **13** (8), 2071–2076.
- Elastic rebound between an indenter and a layered specimen: Part I. Model.–D. S. Stone; **13** (11), 3207–3213.

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- The crystallization and growth of AlB_2 single crystal flakes in aluminum.–C. Deppisch, G. Liu, A. Hall, Y. Xu, A. Zangvil, J. K. Shang, and J. Economy; **13** (12), 3485–3498.

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- A comparison of two aluminizing methods for corrosion protection in the wet seal of molten carbonate fuel cells.–J. Ernesto Indacochea, Ira Bloom, Michael Krumpelt, and Thomas G. Benjamin; **13** (7), 1834–1839.

Al/Si

- Simultaneous real-time study of initial hillocking and changes in overall stress in evaporated Al films during heating.–C. Kylner and L. Mattsson; **13** (6), 1666–1671.
- Thermal cycling fatigue and deformation mechanism in aluminum alloy thin films on silicon.–J. Koike, S. Utsunomiya, Y. Shimoyama, K. Maruyama, and H. Oikawa; **13** (11), 3256–3264.

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- Appropriate passivation structure in dynamic random access memory devices to improve stress-related reliability performance after plastic packaging.–Seong-Min Lee; **13** (7), 1967–1973.

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- Tensile testing low density multilayers: Aluminum/titanium.–D. Josell, D. van Heerden, D. Read, J. Bonevich, and D. Shechtman; **13** (10), 2902–2909.

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- Predicting the spreading kinetics of high-temperature liquids on solid surfaces.–Douglas A. Weirauch, Jr.; **13** (12), 3504–3511.

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Al–Mg

- Occurrence of plastic instabilities in dynamic microhardness testing.–G. Bérces, N. Q. Chinh, A. Juhász, and J. Lendvai; **13** (6), 1411–1413.

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– Superplastic constitutive equation and rate-controlling process in aluminum matrix composites with discontinuous fiber and particle reinforcements.–Mamoru Mabuchi and Kenji Higashi; **13** (3), 640–648.

Al–N–Si–C

– Aluminum nitride-silicon carbide solid solutions grown by plasma-assisted, gas-source molecular beam epitaxy.–R. S. Kern, L. B. Rowland, S. Tanaka, and R. F. Davis; **13** (7), 1816–1822.

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– Fully dense Al–Pb nanocomposite bulk samples consolidated from mechanically milled powders.–F. Zhou, H. W. Sheng, and K. Lu; **13** (2), 249–252.

– Investigation of Al–Pb nanocomposites synthesized by nonequilibrium processes.–H. W. Sheng, F. Zhou, Z. Q. Hu, and K. Lu; **13** (2), 308–315.

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Al–Si/C

– The initiation of spontaneous infiltration of alloys into carbon preforms in air.–X. F. Yang, X. M. Xi, and L. M. Xiao; **13** (2), 316–322.

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– Interfaces and properties of Al–Si alloy zircon particulate composites.–J. U. Ejiofor and R. G. Reddy; **13** (11), 3093–3099.

Al–Si–O

– An analytical electron microscopy investigation of municipal solid waste incineration bottom ash.–James E. Krzanowski, T. Taylor Eighmy, Bradley S. Crannell, and J. Dykstra Eusden, Jr.; **13** (1), 28–36.

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– Characterization of superdislocation dissociations in $Al_{66}Ti_{25}Cr_9$ with transmission electron microscopy observations and image simulations.–Mukul Kumar and K. J. Hemker; **13** (3), 610–624.

Al–Zr–N

– Phase formation and thermodynamic analysis of self-propagating high-temperature synthesis Al–Zr–N system composites.–Kexin Chen, Changchun Ge, and Jiangtao Li; **13** (9), 2610–2613.

(Al,Ga)N

– Cathodoluminescence, photoluminescence, and optical absorbance spectroscopy of aluminum gallium nitride ($Al_xGa_{1-x}N$) films.–Lawrence H. Robins, Jeremiah R. Lowney, and Dennis K. Wickenden; **13** (9), 2480–2497.

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– Changes in optical transmittance and surface morphology of AlN thin films exposed to atmosphere.–Yoshihisa Watanabe, Yoshifumi Sakuragi, Yoshiki Amamoto, and Yoshikazu Nakamura; **13** (10), 2956–2961.

AlN/MgO

– Preparation of wurtzitic AlN thin films with a novel crystallographic alignment on MgO substrates by molecular-beam epitaxy.–J. R. Heffelfinger, D. L. Medlin, and K. F. McCarty; **13** (6), 1414–1417.

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– Cryosol method: A novel powder processing technique based on ion-exchange phenomena.–A. A. Vertegel, S. V. Kalinin, N. N. Oleynikov, Yu. G. Metlin, and Yu. D. Tretyakov; **13** (4), 901–904.

– Metal oxide powder synthesis by the "emulsion combustion" method.–Takao Tani, Kazumasa Takatori, Naoyoshi Watanabe, and Nobuo Kamiya; **13** (5), 1099–1102.

– Determination of x-ray elastic constants using an *in situ* pressing device.–D. H. J. Teeuw and J. Th. M. De Hosson; **13** (7), 1757–1760.

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– High-temperature creep resistance in rare-earth-doped, fine-grained Al_2O_3.–H. Yoshida, Y. Ikuhara, and T. Sakuma; **13** (9), 2597–2601.

– Preparation of nanometer-sized alumina whiskers.–Zhong Qing Yu and You Wei Du; **13** (11), 3017–3018.

– Absorption length for photon propagation in highly dense colloidal dispersions.–Rajeev Garg, K. Prud'homme, Ilhan A. Aksay, Feng Liu, and Robert R. Alfano; **13** (12), 3463–3467.

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Al_2O_3/(Ag–Cu–Ti)

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Al_2O_3/B_4C

– Aluminum borate in the combustion synthesis of alumina/boride composite.–Yonghe Liu, Sheng Yin, Zhimeng Guo, and Lai Hoyi; **13** (7), 1749–1752.

Al_2O_3/Bi

– Bismuth quantum-wire arrays fabricated by a vacuum melting and pressure injection process.–Zhibo Zhang, Jackie Y. Ying, and Mildred S. Dresselhaus; **13** (7), 1745–1748.

Al_2O_3/polyvinylalcohol

– Binder surface segregation during spray drying of ceramic slurry.–Yao Zhang, XiaoXia Tang, Nozomu Uchida, and Keizo Uematsu; **13** (7), 1881–1887.

Al_2O_3/SiO_2

– *In situ* monitoring of the sintering behavior of microcomposite particles using a laser scanning micrometer.–Z. Chen, S-F. Chen, R. A. Overfelt, and M. F. Rose; **13** (8), 2202–2205.

$Al_2O_3–Cr_2O_3$

– Cryosol method: A novel powder processing technique based on ion-exchange phenomena.–A. A. Vertegel, S. V. Kalinin, N. N. Oleynikov, Yu. G. Metlin, and Yu. D. Tretyakov; **13** (4), 901–904.

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– Characterization and cation exchange properties of zeolite synthesized from fly ashes.–Weiping Ma, Paul W. Brown, and Sridhar Komarneni; **13** (1), 3–7.

$Al_2O_3–ZrO_2$

– Auto ignition synthesis and consolidation of $Al_2O_3–ZrO_2$ nano/nano composite powders.–S. Bhaduri, S. B. Bhaduri, and E. Zhou; **13** (1), 156–165.

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– Characterization of aluminosilicate (mullite) precursors prepared by a mechanochemical process.–J. Temuujin, K. Okada, and K. J. D. MacKenzie; **13** (8), 2184–2189.

$3Al_2O_3 \cdot 2SiO_2 : TiO_2$

– Interfacial precipitation in titania-doped diphasic mullite gels.–Seong-Hyeon Hong, Naesung Lee, Altaf H. Carim, and Gary L. Messing; **13** (4), 974–978.

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– Protective AlZrN film for organic photoconductors.–Y. C. Chan, X. S. Miao, and E. Y. B. Pun; **13** (8), 2042–2044.

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Au/Si

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– Combustion synthesis of boron nitride powder.–Chyi-Ching Hwang and Shyan-Lung Chung; **13** (3), 680–686.

– Internal friction and torsional creep behavior of chemically vapor deposited boron nitride.–Guiseppe Pezzotti, Hans-Joachim Kleebe, Ken'ichi Ota, and Toshihiko Nishida; **13** (12), 3453–3457.

Ba–Al–Ti–O(Synroc)

– A ^{133}Cs magic angle spinning nuclear magnetic resonance study of cesium environments in barium hollandites and Synroc.–J. S. Hartman, E. R. Vance, W. P. Power, and J. V. Hanna; **13** (1), 22–27.

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– Preparation of high solid content glass particle-polymethacrylate composite by an advance wetting method.–Yi Hong Wu, Siva Jada, and Ren Xu; **13** (5), 1204–1208.

Ba–Sm–Ti–O

– Structural investigation of $Ba_{6-3x}Ln_{8+2x}Ti_{18}O_{54}$ ($x = 0.27$, Ln = Sm) by single crystal x-ray diffraction in space group *Pnma* (No. 62).–C. J. Rawn, D. P. Birnie III, M. A. Bruck, J. H. Enemark, and R. S. Roth; **13** (1), 187–196.

(Ba, Cr)$Al_2Si_2O_8$ (celsian)

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– High resolution transmission electron microscopy of $Ba_{1-x}K_xBiO_3$ superconductor-insulator-superconductor grain boundary tunnel junctions.–Siu-Wai Chan, A. Kussmaul, E. S. Hellman, and E. H. Hartford, Jr.; **13** (7), 1774–1779.

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(Ba,Sr)TiO_3

– A study of barium strontium titanate thin films for use in bypass capacitors.–B. A. Baumert, L-H. Chang, A. T. Matsuda, C. J. Tracy, N. G. Cave, R. B. Gregory, and P. L. Fejes; **13** (1), 197–204.

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$BaFe_{12}O_{19}$: Ir

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$BaTiO_3$/Pt/Si

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Bi–Sr–O

– System Bi–Sr–O: Synergistic measurements of thermodynamic properties using oxide and fluoride solid electrolytes.–K. T. Jacob and K. P. Jayadevan; **13** (7), 1905–1918.

(Bi, Nd)NbO_4

– Effects of Nd_2O_3 on the microwave dielectric properties of $BiNbO_4$ ceramics.–Whan Choi, Kyung-Yong Kim, Myung-Rip Moon, and Kyoo-Sik Bae; **13** (10), 2945–2949.

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$(Bi,Pb)_2Sr_2Ca_2Cu_3O_x$

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C

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CoOOH

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(Nb,Ti)Cr_2

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Pb(Mg,Nb)O_3

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SiC/$SiC_{(fiber)}$

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$Sm(Sn, Fe)_3O_7$

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SnO_2 : (Pd;Pt;Rh)

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(Sr,Ca)CuO_2

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(Sr,Ca)CuO_2/$SrCuO_2$

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(Sr, Ti)$H_2P_2O_8$

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$SrBi_2Nb_2O_9$

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$Ti(H_2PO_4)(PO_4) \cdot 2H_2O/C_6H_7NH_2 \cdot 2H_2O$

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ZrB_2
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ZrC
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